

Office of Energy Efficiency and Renewable Energy U.S. Department of Energy

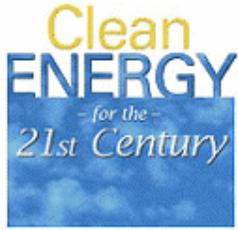


DOE/EPA Green Tag Workshop

**December 12, 2000
Washington, DC**

**Dan Reicher
Assistant Secretary**

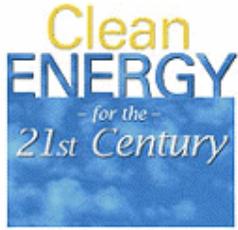




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Welcome

- ▶ Our *First* opportunity to exchange information on green/renewable tags.
- ▶ Today perspectives from:
 - Suppliers
 - Federal government customers
 - Corporate customers
 - State credit trading programs
 - A green power provider from a regulated green power utility program
 - Trade associations and non-governmental organizations



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1979: 40 cents/kWh

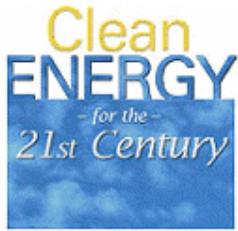
2000: 4-6
cents/kWh

- ▶ Increased Turbine Size
- ▶ R&D Advances
- ▶ Manufacturing Improvements



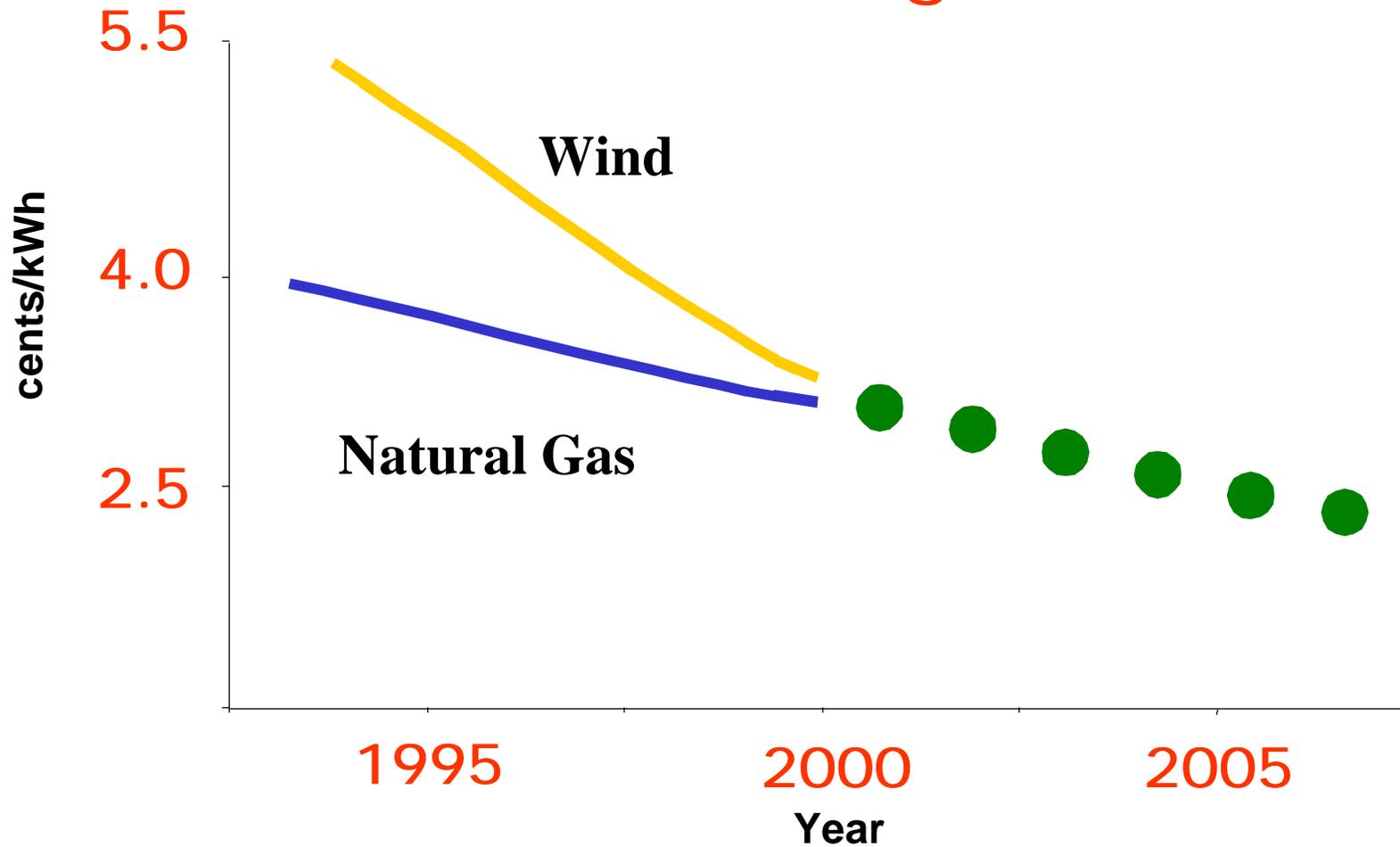
NSP 107 MW Lake Benton wind farm
4 cents/kWh (unsubsidized)

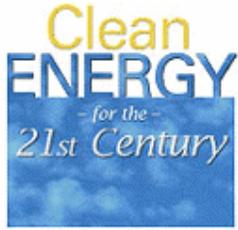
2007 Goal: 2-4 cents/kWh



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Price Convergence?





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Geothermal Energy

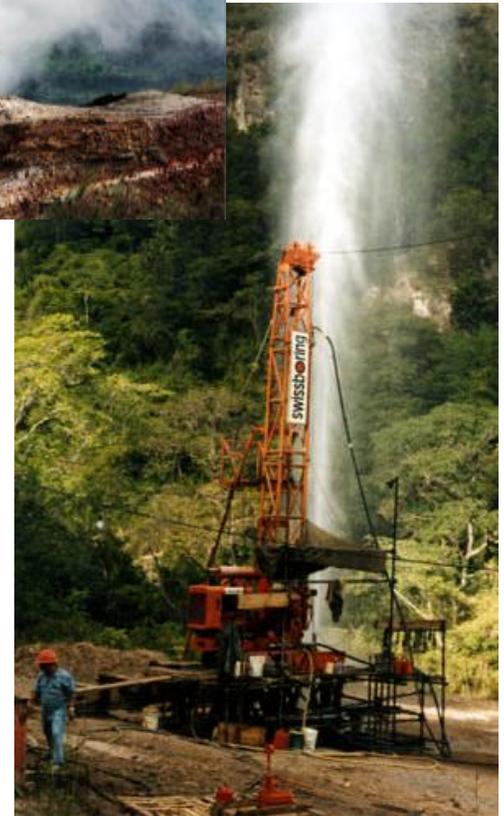
1985: 15-16 cents/kWh

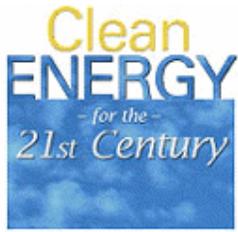


**2000:
5-8 cents/kWh**

- More industry experience
- Improved drilling technology
- Economies of scale
- Reduced cost of finance

**2003:
4-6 cents/kWh**





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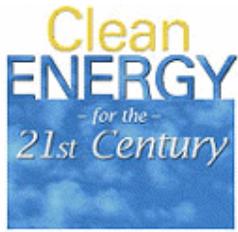
Photovoltaics

**1980:
\$1.00/kWh**

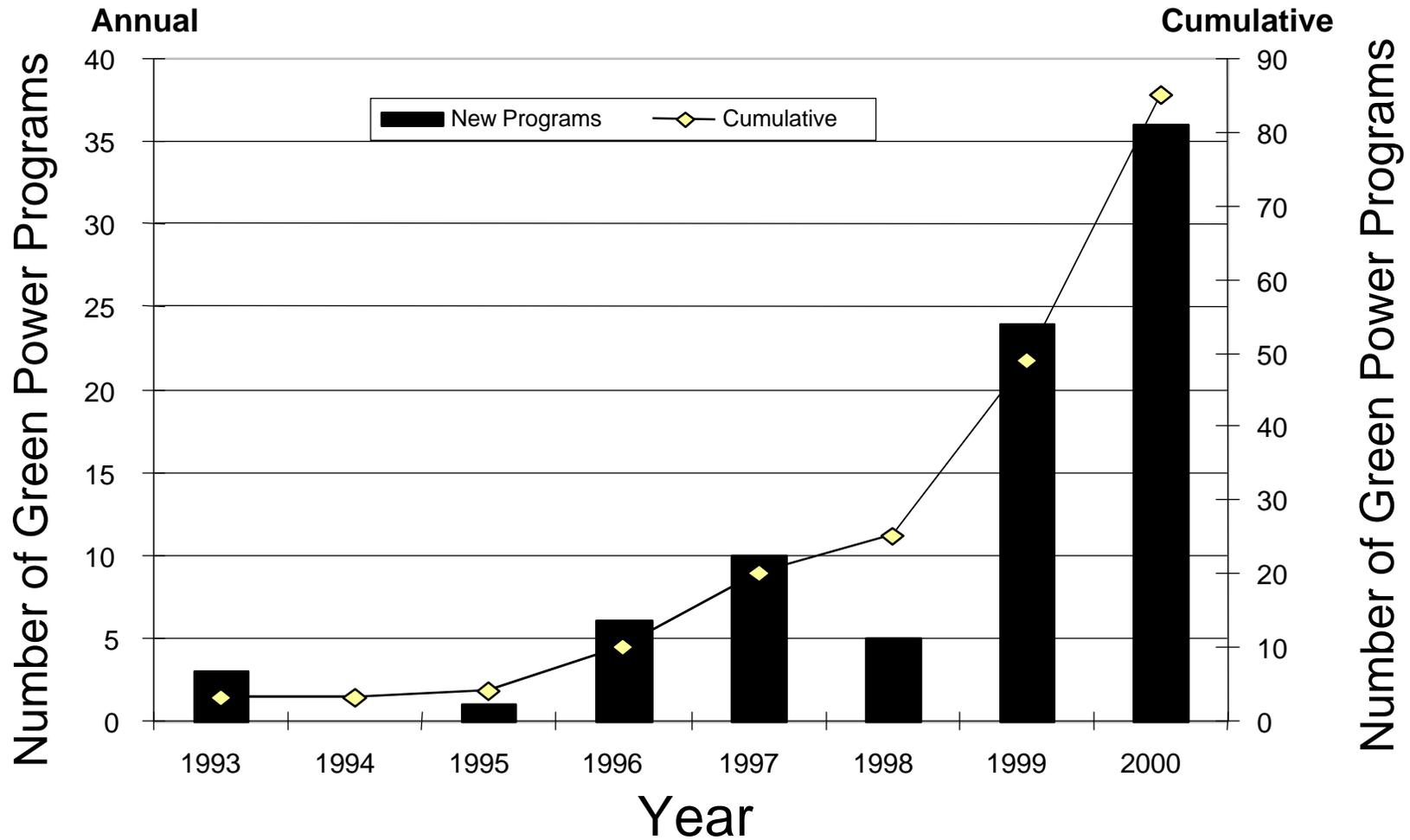
**2000:
~20¢/kWh**

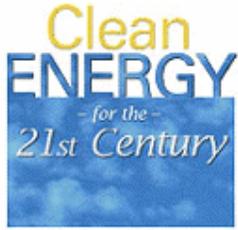
**2005:
~10¢/kWh**





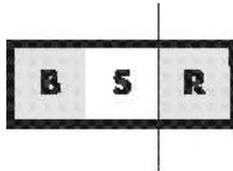
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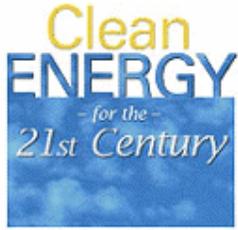
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Green Power Market Development Group



Alcoa	GM
Cargill-Dow	IBM
Delphi	Interface
DuPont	Pitney Bowes
Kinkos	Johnson & Johnson

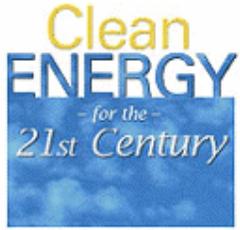
**Account for 7% of
industrial energy use
1,000 MW of Green
Power by 2010**



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Why Green Tags?

- ▶ **To drive and accelerate growth of renewable energy.**
- ▶ **For simplicity and cost advantages.**
- ▶ **So green power keeps up with the I.T. world of e-commerce.**
- ▶ **To boost regional economic development.**

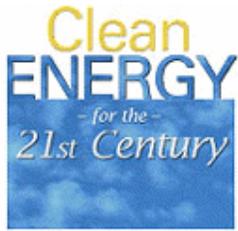


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Bringing it Home

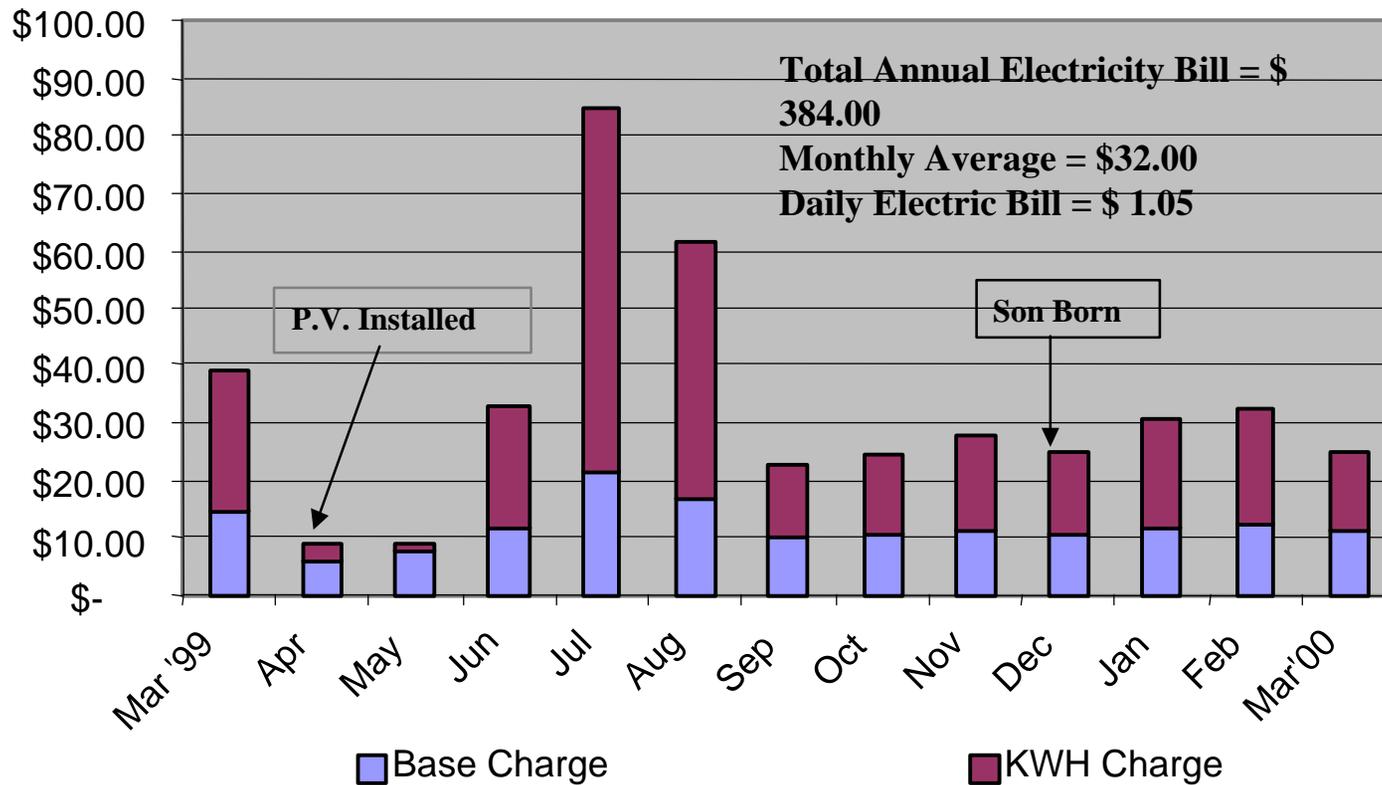


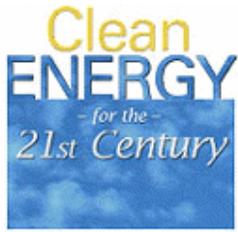
8 Hesketh Street



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Dan Reicher's Electric Bill





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**What is IN a Green Tag?
— A Portfolio Approach**



Wind



Geothermal



Photovoltaics



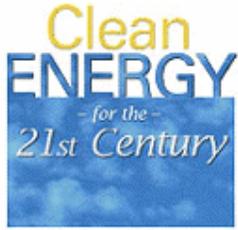
Landfill Gas



Concentrating Solar



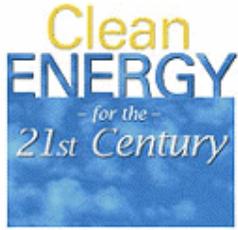
Biomass



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What's In a Name?

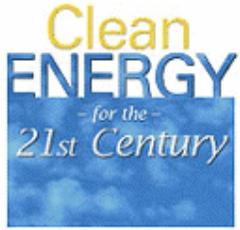
- ▶ **Green Tags**
- ▶ **Green Certificates**
- ▶ **Clean Energy Credits**
- ▶ **Renewable Energy Credits**



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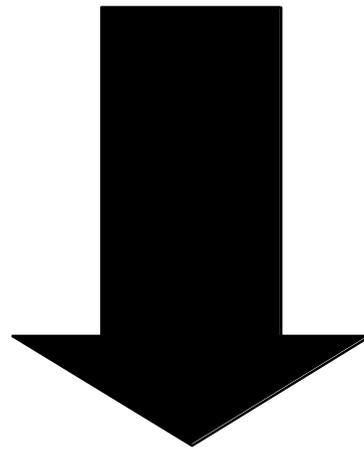
A Strong Start

- ▶ **Bonneville Environmental Foundation pioneers Green Tags**
- ▶ **CA APX offers Green Tickets**
- ▶ **Kinko's has bought Green Certificates**
- ▶ **EPA has bought Green Tags**
- ▶ **States offer Renewable Energy Credits**
- ▶ **DOE is working to buy Green Tags**

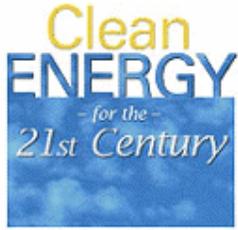


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“Nice Thing to Do”

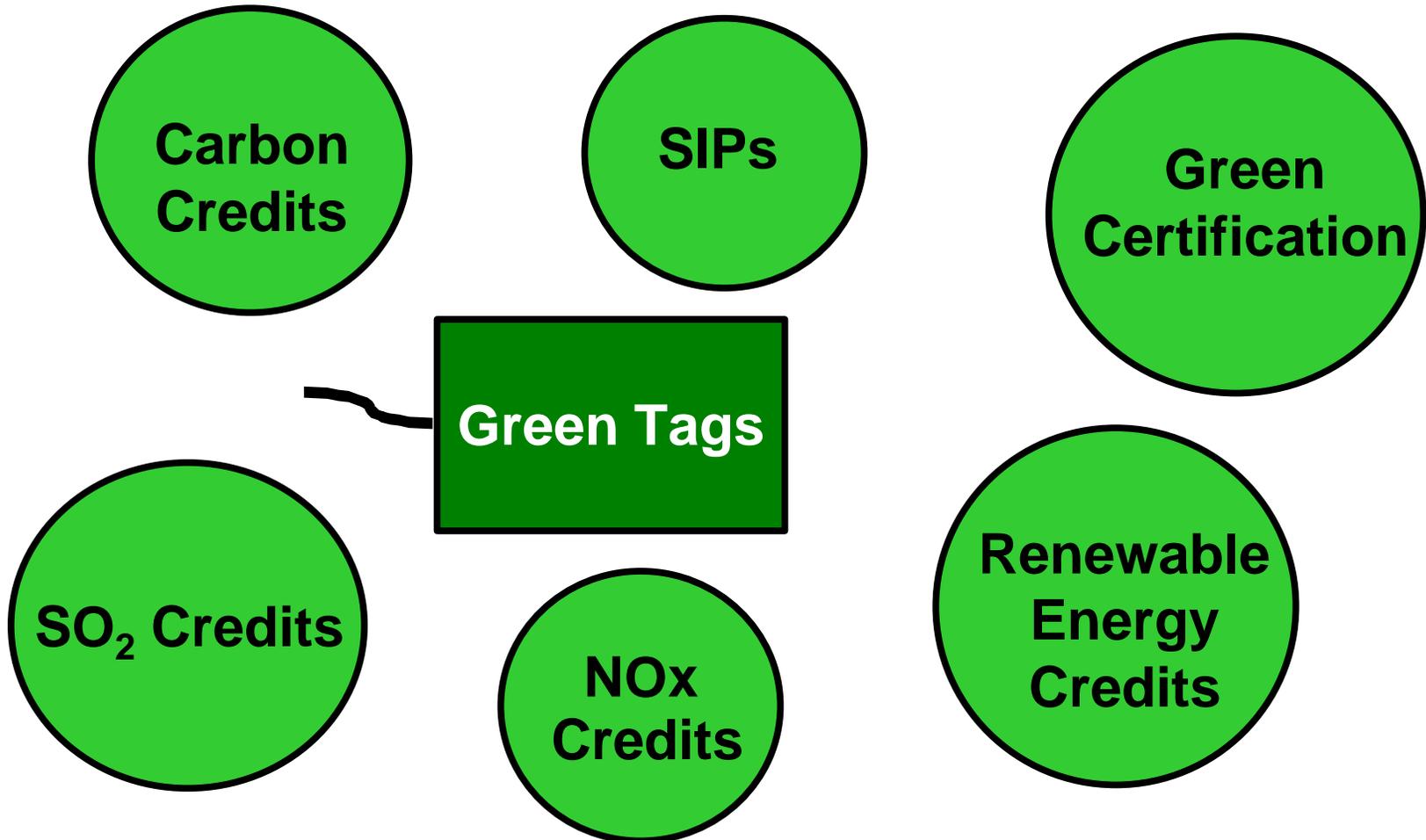


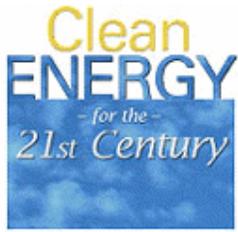
“Smart Thing to Do”



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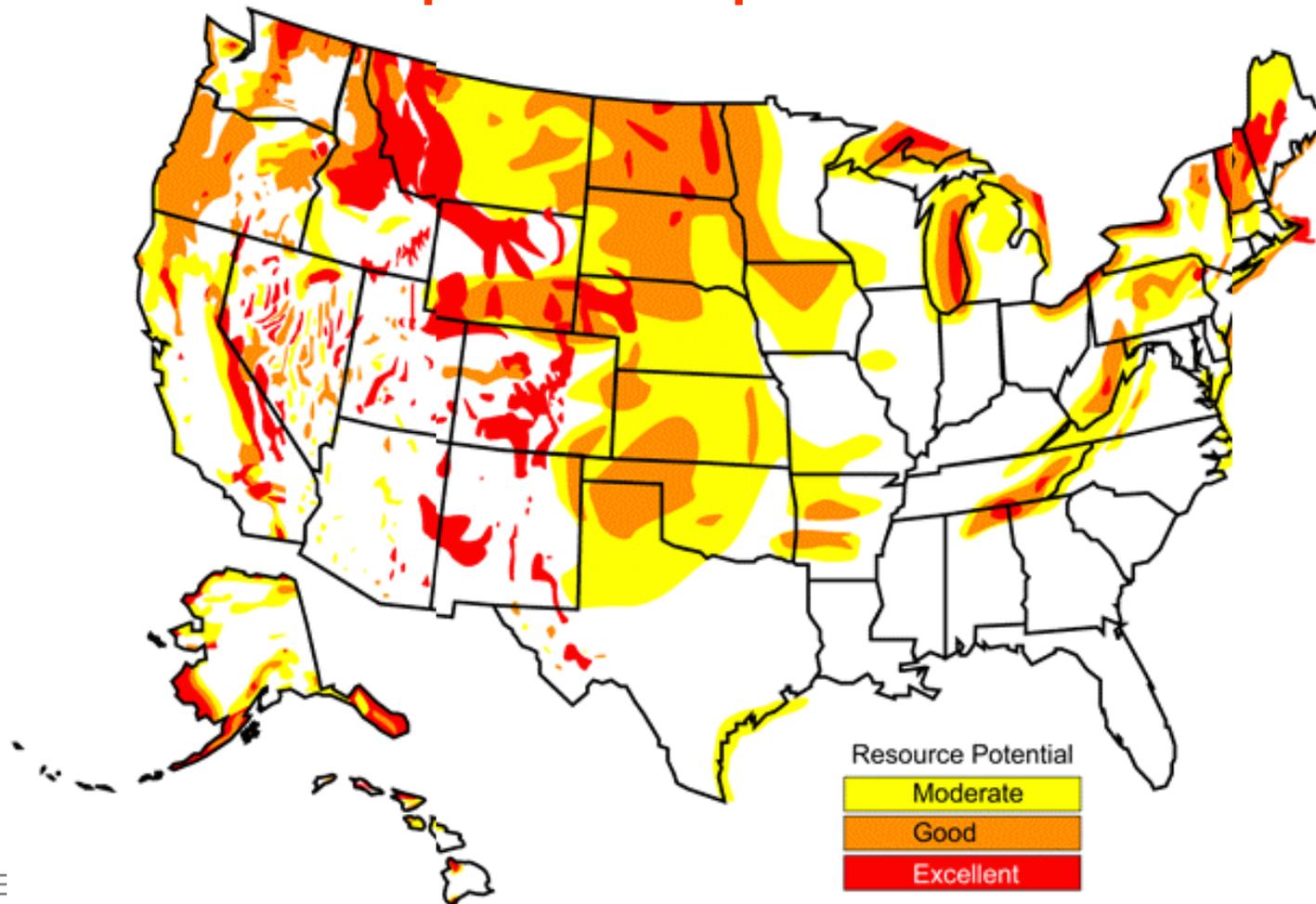
An Extended Family

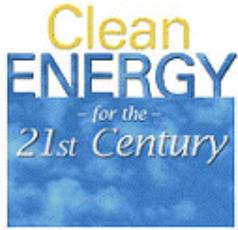




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**American Wind Resources--Opportunities for Economic
Development in Depressed Areas**

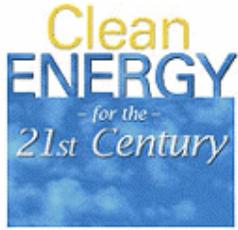




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Why are We Here?

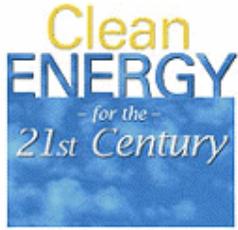
- ▶ **Assess the opportunity**
- ▶ **Discuss the current status**
- ▶ **Determine needs**
- ▶ **Action items and next steps**



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Action Items

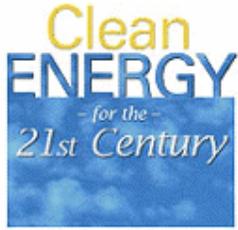
- ▶ **Develop consensus on the roles and responsibilities for public, private, and NGO sectors.**
- ▶ **Develop tools and policies to enable green tag markets.**
- ▶ **Overcome barriers to the implementation of green tags.**
- ▶ **Develop partnerships to do all of this.**



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What Should the Federal Government Do?

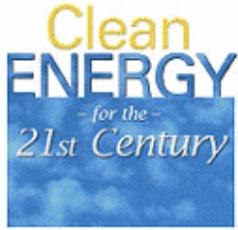
- ▶ **Enable green tags market**
- ▶ **Encourage development of and enforcement of “rules of the road”**
- ▶ **Get information on tags to the RE industry**
- ▶ **Encourage a portfolio of renewables**



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Rules that Need Development

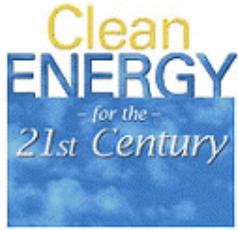
- ▶ **Financial transaction verification**
- ▶ **Relationship of air quality to green credits**
- ▶ **FTC definitions of RE credits**
- ▶ **Relative value of local, regional, national credits**
- ▶ **Credit retirement**



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DOE Commits to More Green Power

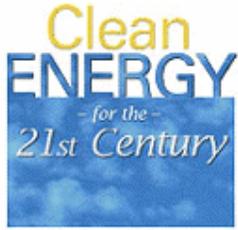
- ▶ **First Federal agency department-wide commitment to Green Power**
- ▶ **3% of electricity needs from non-hydro renewables by 2005**
- ▶ **Rising to 7.5% of electricity needs by 2010**
- ▶ **In deregulated states, DOE will competitively select suppliers**
- ▶ **No increase in utility bill expected**



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Perspective on DOE's 3% Goal

- ▶ **DOE uses 5.26 million MWh of electricity per year**
- ▶ **Annual electric bill is \$222,356,000**
- ▶ **3% of electric use equals 160 million kWh per year
(about 60 MW at 30% capacity factor)**
- ▶ **At 2¢ per kWh the annual cost would be \$3.4 million**



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Let's Do Some Deals Now

But also

Learn from Them and Lay
Groundwork for the Future.